

Claims

The following listing of claims replaces all prior versions and listings of claims in the application:

1. **(Currently Amended)** An engineered welded blank, comprising:
 - a first sheet metal piece having at least one edge, a first side, and a second side ~~and at least one edge~~ separated from said first side by the thickness of said first sheet metal piece,
 - a second sheet metal piece having at least one edge that is thicker than said edge of said first sheet metal piece, a first side, and a second side ~~and at least one edge that is thicker than said edge of said first piece~~ separated from said first side by the thickness of said second sheet metal piece, wherein said first and second sheet metal pieces abut one another along an interface of said edges, and
 - a weld seam extending along at least a portion of said interface, wherein said interface includes a first segment where said first sides of said first and second sheet metal pieces are flushly aligned across said interface ~~along a first segment of said interface~~ and a second segment where said second sides of said first and second sheet metal pieces are flushly aligned across said interface ~~along a second segment of said interface~~.
2. **(Original)** The engineered welded blank of claim 1, wherein said edges of said first and second pieces extend in a non-parallel manner, with respect to one another, between said first and second segments.
3. **(Previously Presented)** An engineered welded blank, comprising:
 - a first sheet metal piece having a first side, a second side and at least one edge,
 - a second sheet metal piece having a first side, a second side and at least one edge that is thicker than said edge of said first piece, wherein said first and second sheet metal pieces abut one another along an interface of said edges, and
 - a weld seam extending along at least a portion of said interface, wherein said first sides of said first and second sheet metal pieces are flushly aligned along a first segment of said

interface and said second sides of said first and second sheet metal pieces are flushly aligned along a second segment of said interface, and

wherein said interface extends along a generally linear path between said first and second segments.

4. **(Original)** The engineered welded blank of claim 1, wherein said interface extends along a generally non-linear path between said first and second segments.

5. **(Currently Amended)** The engineered welded blank of claim 1, wherein said ~~blank~~ **interface** further includes at least one additional segment where said first sides of said first and second sheet metal pieces are flushly aligned.

6. **(Currently Amended)** The engineered welded blank of claim 1, wherein said ~~blank~~ **interface** further includes at least one additional segment where said second sides of said first and second sheet metal pieces are flushly aligned.

7. **(Original)** The engineered welded blank of claim 1, wherein said engineered welded blank is a laser welded blank.

8. **(Currently Amended)** A vehicle door panel assembly ~~formed from an engineered welded blank that comprises, comprising:~~

an outer door panel; and

an inner door panel, comprising:

a first sheet metal piece having a first side, a second side and at least one edge,

a second sheet metal piece having a first side, a second side and at least one edge that is thicker than said edge of said first piece, wherein said first and second sheet metal pieces abut one another along an interface of said edges, and

a weld seam extending along at least a portion of said interface, wherein said first sides of said first and second sheet metal pieces are flushly aligned along a first

segment of said interface and said second sides of said first and second sheet metal pieces are flushly aligned along a second segment of said interface.

9. **(Currently Amended)** An engineered welded blank, comprising:

a first sheet metal piece having a first edge, an outer side, and an inner side ~~and a first edge separated from said outer side by the thickness of said first sheet metal piece~~,

a second sheet metal piece having a second edge, an outer side, and an inner side ~~and a second edge separated from said outer side by the thickness of said second sheet metal piece~~, wherein said first and second edges have unequal thicknesses and abut one another along an edge-to-edge interface, and

a weld seam extending along at least a portion of said interface, wherein said interface includes a first segment ~~of said interface that~~ is stepped between said ~~inner~~ outer sides of said first and second sheet metal pieces, and a second segment ~~of said interface that~~ is stepped flush between said outer sides of said first and second sheet metal pieces.

10. **(Original)** The engineered welded blank of claim 9, wherein said first and second edges extend in a non-parallel manner, with respect to one another, between said first and second segments.

11. **(Previously Presented)** An engineered welded blank, comprising:

a first sheet metal piece having an outer side, an inner side and a first edge,

a second sheet metal piece having an outer side, an inner side and a second edge, wherein said first and second edges have unequal thicknesses and abut one another along an edge-to-edge interface, and

a weld seam extending along at least a portion of said interface, wherein a first segment of said interface is stepped between said inner sides of said first and second sheet metal pieces and a second segment of said interface is stepped between said outer sides of said first and second sheet metal pieces,

wherein said interface extends along a generally linear path between said first and second segments.

12. **(Original)** The engineered welded blank of claim 9, wherein said interface extends along a generally non-linear path between said first and second segments.

13. **(Original)** The engineered welded blank of claim 9, wherein said edge-to-edge interface further includes at least one additional segment that is stepped between said inner sides of said first and second sheet metal pieces.

14. **(Original)** The engineered welded blank of claim 9, wherein said edge-to-edge interface further includes at least one additional segment that is stepped between said outer sides of said first and second sheet metal pieces.

15. **(Previously Presented)** An engineered welded blank, comprising:
a first sheet metal piece having an outer side, an inner side and a first edge,
a second sheet metal piece having an outer side, an inner side and a second edge,
wherein said first and second edges have unequal thicknesses and abut one another along an edge-to-edge interface, and
a weld seam extending along at least a portion of said interface, wherein a first segment of said interface is stepped between said inner sides of said first and second sheet metal pieces and a second segment of said interface is stepped between said outer sides of said first and second sheet metal pieces,
wherein at least one of said first and second segments is located at least partially beyond either said inner side or said outer side of said second sheet metal piece, thereby forming a negative step.

16. **(Previously Presented)** An engineered welded blank, comprising:
a first sheet metal piece having an outer side, an inner side and a first edge,
a second sheet metal piece having an outer side, an inner side and a second edge,
wherein said first and second edges have unequal thicknesses and abut one another along an edge-to-edge interface, and

a weld seam extending along at least a portion of said interface, wherein a first segment of said interface is stepped between said inner sides of said first and second sheet metal pieces and a second segment of said interface is stepped between said outer sides of said first and second sheet metal pieces,

wherein said first segment is a negative step located at least partially beyond said inner side of said second sheet metal piece and said second segment is a negative step located at least partially beyond said outer side of said second sheet metal piece.

17. **(Original)** The engineered welded blank of claim 9, wherein said engineered welded blank is a laser welded blank.

18. **(Presently Amended)** A vehicle door panel assembly ~~formed from an engineered welded blank that comprises, comprising:~~

an outer door panel; and

an inner door panel, comprising:

a first sheet metal piece having an outer side, an inner side and a first edge,

a second sheet metal piece having an outer side, an inner side and a second edge, wherein said first and second edges have unequal thicknesses and abut one another along an edge-to-edge interface, and

a weld seam extending along at least a portion of said interface, wherein said interface includes a first segment ~~of said interface that~~ is stepped between said ~~inner outer~~ sides of said first and second sheet metal pieces, and a second segment ~~of said interface that~~ is **stepped flush** between said outer sides of said first and second sheet metal pieces.

19. **(Original)** A door panel assembly for use on a vehicle, comprising:

an inner door panel including:

a thick sheet metal piece for reinforcing a portion of the inner door panel, said thick piece having an outer side, an inner side and an edge,

a thin sheet metal piece having an outer side, an inner side and an edge that is thinner than said edge of said thick piece, wherein said thick and thin sheet metal

pieces abut one another along an interface of said edges, said interface includes a first segment where said inner sides of said thick and thin pieces are flush with each other and a second segment where said outer sides of said thick and thin pieces are flush with each other, and;

a laser welded seam extending along at least a portion of said interface;

an outer door panel, and;

a seal extending along at least a portion of the periphery of said door panel assembly;

wherein said seal extends across said interface at said first segment and said outer door panel contacts said interface at said second segment.

20. **(Withdrawn)** A method of manufacturing an engineered welded blank, said method comprising the steps of:

(a) providing first and second sheet metal pieces, said first sheet metal piece having a mating edge that is thinner than a mating edge of said second sheet metal piece,

(b) bringing said mating edges together along an interface while maintaining said second sheet metal piece in a non-planar alignment, and

(c) welding said first and second sheet metal pieces together along said interface.

21. **(Withdrawn)** The method stated in claim 20, wherein step (b) further comprises bringing said mating edges together such that first sides of said first and second sheet metal pieces are flushly aligned along a first segment of said interface.

22. **(Withdrawn)** The method stated in claim 21, wherein step (b) further comprises bringing said mating edges together such that second sides of said first and second sheet metal pieces are flushly aligned along a second segment of said interface.

23. **(Withdrawn)** The method stated in claim 22, wherein step (b) further comprises bringing said mating edges together such that said edges extend between said first and second segments along said interface in a non-parallel manner, with respect to one another.

24. **(Withdrawn)** The method stated in claim 22, wherein step (b) further comprises bringing said mating edges together such that said interface extends along a generally non-linear path between said first and second segments.

25. **(Withdrawn)** The method stated in claim 20, wherein step (c) further comprises laser welding said first and second sheet metal pieces together along said interface.